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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,872	08/04/2003	Tyler A. Lowrey	ITO.0046US (P16201)	5269
21906 7590 07/13/2007 TROP PRUNER & HU, PC 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631			EXAMINER LE, THONG QUOC	
			ART UNIT 2827	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

TH

**Office Action Summary**

Application No.

10/633,872

Applicant(s)

LOWREY ET AL.

Examiner

Thong Q. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7,9-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-14,16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Amendment filed on 04/26/2007 has been entered.
2. Claims 1, 3-7, 9-14, 16 are presented for examination.

### ***Response to Arguments***

3. Applicant's arguments filed 04/26/2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **select device**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In applicant's argument does not point out the different between inventions of present application and cite reference. Otherwise, the argument refers to element is not recited in claim nor rejection. For example, select device. Examiner surely that applicant understanding the disclosures of presented application and recited reference more than examiner.

The present invention discloses a memory cell 10 may includes a memory element 22 and a select device 14 as explained in Figure 1 and Detailed Description in page 2 lines 21-22, and memory element is a phase change memory element, which is recited in claimed invention.

The cited reference discloses a memory cell 111 includes a memory element 130 and a select device 120 as show in Figure 17 and explained in paragraphs 0027, 0113,

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and the memory element 130 may comprises a phase change material in paragraph 0028.

[0027] Turning to FIG. 1, an embodiment of a memory 100 is illustrated. Memory 100 may include a 3x3 array of memory cells 111-119, wherein memory cells 111-119 each include a select device 120 and a memory element 130.

[0028] In one embodiment, memory elements 130 may comprise a phase change material. In this embodiment,

[0113] As is illustrated, memory element 130 and select devices 120 and 125 are connected in a serial arrangement. In one embodiment, select devices 120 and 125 may be ovonic switches and memory element 130 may be an ovonic memory.

As described above, it is enough to prove that the cited reference overcomes the present invention. Even examiner does not point out the evidence in cited reference as above, applicant still understands in hundred percent the invention in cited reference and present application are exactly the same. Moreover, an invalid invention can not be issued.

With discussion above, the last rejection action still stands.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 1, 3-7, 9-14, 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Lowrey (Pub. U.S. Patent No. 2004/0113137).

Regarding claims 1, 6, Lowrey discloses method and an apparatus (Figure 4) comprising:

forming a phase change memory element having a holding voltage that is at least 80 percent of the threshold voltage of the element and holding voltage greater than about .9 volts ([0120], phase change element has threshold voltage is about 1.2 volts, holding voltage is about 1 volts, it is greater than .9 volts and about 80% of the threshold voltage of element).

Regarding claim 3, 9, 16, Lowrey discloses forming a phase change memory element to have a threshold voltage that does not vary by more than 10 percent with programming currents varying as much as two times ([0032], [0036]).

Regarding claims 4-5, 7, 10, 13-14, Lowrey discloses forming a phase change memory element including a phase change material (Figure 3, 220) between a pair of

electrodes (Figure 3,230, 210, [0037]), and forming a phase change material with a lower electrode of titanium silicon nitride ([0038]).

Regarding claim 6, Lowrey discloses an apparatus (Figure 4) comprising:

a phase change memory element (Figure 4, 130) to be read ([0032]) with a voltage greater than or equal to the threshold voltage of the element and to have a holding voltage that is at least 80 percent of the threshold voltage of element ([0120], threshold voltage is 1.2v, and holding voltage is 1 volt, hence the holding voltage at least or more than 80% of threshold voltage of phase change memory element).

Regarding claim 11, Lowrey discloses an apparatus (Figure 20) comprising: a processor (Figure 20, 865) ; and a phase change memory element having a holding voltage that is at least 80 percent of the threshold voltage of the element and holding voltage greater than about .9 volts ([0120], phase change element has threshold voltage is about 1.2 volts, holding voltage is about 1 volts, it is greater than .9 volts and about 80% of the threshold voltage of element. Hence, it overcomes present claim invention).

Regarding claim 12, Lowrey discloses the wireless interface including a dipole antenna ([0133]).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarabian Amir can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Thong Q. Le', with a stylized, cursive script.

Thong Q. Le  
Primary Examiner  
Art Unit 2827